

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: DORE, David James

SERIAL NO.: (International Serial No.PCT/GB2004/004799)

FILED: Herewith (International Filing Date: 17 November 2004)

TITLE: MIST-SPRAYING APPARATUS

REMARKS ON PRELIMINARY AMENDMENT

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

In conjunction with the filing of the present application, and prior to an initial Official Action on this matter, please amend the above-identified application as provided in the attached Marked Up Copy and Substitute Specification.

Please note that the following amendments in the Substitute Specification apply to the attached specification and claims labeled for "U.S. filing". This combined application incorporates the original application and any amendments or annex to the International Application in the proper order, including the correct original and substitute pages, claims and drawing sheets.

In this preliminary amendment, please consider the following remarks in conjunction with the amendments to the above-identified application as follows:

REMARKS

The present Preliminary Amendment has been entered for the purpose of placing the application into a more proper U.S. format. In particular, certain grammatical and idiomatic inconsistencies have been corrected by amendment to the specification, and the application is

corrected for certain typographical errors found in the originally submitted application. No new matter has been added by these amendments. The present application incorporates the original filing including any amendments made in the international filing. There was no amendment in the International Application, and there is no annex to the International Preliminary Examination Report because a Demand for an IPER was not filed..


The Claims have been amended so as to conform with U.S. requirements and so as to remove multiple dependent claims. The Abstract has been amended so as to conform to U.S. filing requirements.

Applicant respectfully requests that the present Amendment be entered prior to an initial Official Action on the present application.

5-25-06
Date

Customer No. 24106

Respectfully submitted,



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CLAIMS

I claim:

1. (Currently amended) A mist-spraying apparatus ~~primarily but not exclusively~~ for use in an enclosed space, the apparatus comprising

an air-blowing means with an outlet conduit through which air can be blown into the enclosed space and an inlet conduit through which air from within the enclosed space can be drawn for blowing through the outlet conduit to circulate within the space;

a spraying means comprising a pump for delivering liquid from a reservoir to an atomizing nozzle for spraying the liquid into the space in the form of an atomized mist, the atomizing nozzle being located within the outlet conduit so that atomized particles emitted by the atomizing nozzle are entrained in ~~the~~ an airstream emitted by ~~the~~ said air-blowing means and thereby distributed evenly throughout the space; and

a control means for controlling operation of the air-blowing means and the spraying means ~~that is adapted,~~ said control means adapting to commence operation of the air-blowing means prior to operation of the atomizing nozzle and to continue operation of the air-blowing means after operation of the nozzle has ceased in order to continue circulation of the air and any atomized particles entrained therein around the space for a predetermined period of time.

2. (Currently amended) An apparatus as claimed in Claim 1, wherein ~~the~~ said atomizing nozzle is ~~located~~ centrally within ~~the~~ said outlet conduit.

3. (Currently amended) An apparatus as claimed in Claim 1 ~~or Claim 2~~, wherein ~~the~~ said outlet conduit has a rectangular cross-sectional profile.

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4. (Currently amended) An apparatus as claimed in ~~any of Claims 1 to 3~~ Claim 1, wherein the said outlet conduit defines a slot so that the airstream emitted into the space is ~~in the form~~ formed of a slot-jet.

5. (Currently amended) An apparatus as claimed in ~~any of Claims 1 to 4~~ Claim 1, wherein the said atomizing nozzle is inset within the said outlet conduit.

6. (Currently amended) An apparatus as claimed in ~~any of Claims 1 to 6~~ Claim 1, wherein a spraying tip of the atomizing nozzle is inset by at least 25 mm and by no more than 40 mm into the said outlet conduit.

7. (Currently amended) An apparatus as claimed in ~~any of Claims 1 to 6~~ Claim 1, wherein the air- blowing means is provided with a source of steam whereby steam is additionally blown into the enclosed space via the said outlet conduit.

8. (Currently amended) An apparatus as claimed in ~~any of Claims 1 to 7~~ Claim 1, wherein the said atomizing nozzle comprises a 60° solid cone nozzle.

9. (Currently amended) An apparatus as claimed in ~~any of Claims 1 to 8~~ Claim 1, wherein the said spraying means ~~is adapted~~ is adapted to spray at least 11 liters of liquid per hour at a pressure of $7 \times 10^5 \text{ N per m}^2$ (7 bar).

10. (Currently amended) An apparatus as claimed in ~~any of Claims to 9~~ Claim 1, wherein the said air- blowing means comprises a cylindrical fan.

11. (Currently amended) An apparatus as claimed in ~~any of Claims to 10~~ Claim 1, ~~which is~~ being located in proximity ~~close to the~~ a ceiling at ~~the~~ a top of a wall of the enclosed space.

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12. (Currently amended) A mist-spraying apparatus as claimed in ~~any of Claims to Claim 1,~~
wherein ~~the~~ said reservoir contains a mixture of an oil and an aqueous solution.

13. (Currently amended) A mist-spraying apparatus as claimed in Claim 12, wherein ~~the~~ said
oil comprises monopropylene glycol or monoethylene glycol.

14. (Currently amended) A mist-spraying apparatus as claimed in Claim 12 ~~or Claim 13,~~
~~wherein s to 11,~~ wherein the mixture comprises less than 1 part oil to every 100 parts aqueous
solution by volume.

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ABSTRACT OF THE DISCLOSURE

A mist-spraying apparatus primarily but not exclusively for use in an enclosed space ~~comprises~~ includes an air-blowing ~~means (1)~~ mechanism, a spraying ~~means (2)~~ mechanism and a control ~~means (13)~~ mechanism. The air-blowing ~~means (1)~~ mechanism defines an outlet conduit (6) through which air can be blown ~~into the space~~ and an inlet conduit (7) through which air from within the space can be drawn ~~for blowing through the outlet conduit (6) to circulate within the space~~. The spraying ~~means (2)~~ comprises mechanism includes a pump (9) for delivering liquid from a reservoir (10) to an atomizing nozzle (11) for spraying into the space ~~in the form of an atomized mist~~. The atomizing nozzle (11) is located within the outlet conduit (6) so that atomized particles emitted by the atomizing nozzle (11) are entrained in the airstream emitted by the air-blowing ~~means (2)~~ mechanism and thereby distributed evenly throughout the space. The control ~~means (13)~~ mechanism controls operation ~~of the air-blowing means (1) and the spraying means (2)~~ and is adapted to commence operation of the air-blowing ~~means (1)~~ prior to operation of the atomizing nozzle (11) and to continue operation of the air-blowing ~~means (1)~~ after operation of the nozzle (11) has ceased ~~in order to continue circulation of the air and any atomized particles entrained therein around the space for a predetermined period of time~~.